

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



FEDERAL ACID RAIN INITIATIVES

a 821
A 8308
Cop. 2

I used to live in Milwaukee and came to know the state of Wisconsin fairly well. And as must be true for anyone who knows this state, I am impressed by the richness of the natural resources here. The National Forests and other woodlands, lakes, and bogs of the northern counties, the central sand counties about which Aldo Leopold wrote, the rich farmlands further south--these natural resources are a treasure to the people of Wisconsin and the whole nation. And it's good to see the efforts of the people of this state to protect these resources and manage them wisely.

The long-term value and productivity of Wisconsin's resources--the fish and fish-eating birds of its lakes, fertility of its croplands and forest lands, purity of its water, and stability of its ecosystems--are important concerns to all of us here today.

We know enough about acid rain and other forms of atmospheric deposition to be seriously concerned about their long-term effects on these resources. This is quickly becoming one of the great conservation issues of our time.

Other speakers this morning reviewed the phenomenon of acid rain, how it is formed and transported and the effects it can have upon aquatic and terrestrial ecosystems.

It was not a pretty picture they pieced together this morning. There are gaps in our knowledge, but we know enough about acid rain to be concerned about its effects. One of the most basic things we know is that acid rain is not a simple problem, and its solution will not be quick, easy, or inexpensive. But it is a problem we can do something about.

Our discussions this afternoon will address what we are doing now, and what more we can do in the future to reduce the incidence of acid rain and alleviate its effects on our ecosystems.

For my part, I will review federal initiatives in addressing acid rain, including research in the Department of Agriculture and in other agencies as well as national and international efforts to cope with the acid rain problem.

Before I do that, however, I will outline two general principles which shape the character of federal acid rain programs.

First, acid deposition is a symptom, rather than a cause. Acid rain is a one of many symptoms of air pollution-- specifically of the sulfur and nitrogen oxide components of polluted air.

To alleviate those symptoms, we must address the cause of air pollution. To stop acid rain, for example, we need to control sulfur and nitrogen oxide emissions, instead of liming lakes and streams.

Second, acid rain illustrates an adaptation of the old adage that "What goes up, will come down--somewhere else." Sulfur emissions from the coal-burning power plants and smelters of the Midwest and the Ohio River Valley come down as acid rain elsewhere, perhaps over northern New York State, New England and Ontario.

In Sweden, where acid rain has been documented for many years, scientists estimate that only a quarter of the sulfur dioxide pollution causing it actually is emitted in Sweden. The remainder is "imported" from other countries in Europe. One Swedish soil scientist has characterized acid rain as the equivalent of "chemical warfare" among European nations.

Acid rain, then, is a problem which has become a regional and international concern, and which requires a cooperative approach to its solution.

Where regional and national standards differ, it can be a source of confusion that they bear an unfair share of the burden of stringent controls on air pollution. More relaxed standards and expectations are often found in areas with more relaxed standards and expectations.

Though the subject of this problem is at least as severe as the problem has spread and worsened since the 1970s.

Beyond this, combinations of factors in the United States especially seen in Agriculture's Soil Conservation Service will help determine areas most vulnerable to acid deposition.

Acid deposition problems arise because the natural pH of rainfall is around 5.6. In the United States, registers an annual mean pH between 4.0 and 5.0--some as low as 3.0.

This has significant implications for the environment. It adds to the complexity of our environmental problems.

The world is moving toward a more convenient source of energy, oil, which is more expensive to extract, and more expensive to use. This threatens the nation's independence and economic security.

To cope with that, President Carter has a peacetime program in the history of the United States. It aims to reduce our reliance on oil from the Persian Gulf by 50 percent by the year 2000.

That will not be easy. There are many possible energy options--solar, biomass, hydroelectric, nuclear, coal, wind and others. All have significant costs--environmental, social and monetary. Those costs underline the great importance of our least expensive and most environmentally sound option: energy conservation.

One of the major goals of President Carter's energy program, in addition to conservation, is reducing oil use by utilities. Currently, utilities consume about 1.5 million barrels of oil every day. President Carter has proposed legislation to reduce this use by 50 percent within the decade, primarily by converting to other fuels, especially coal.

The United States sits on an enormous bed of coal--nearly a quarter of the world supply. Given our serious energy needs, there is little question that we need a coal conversion plan. But we must recognize that acid rain is one of the environmental costs potentially attached to that conversion.

We can deal reasonably with that cost if we are willing to gain a better understanding of acid rain, if we are willing to develop imaginative new technologies needed to deal with it and if we are willing to define the regulatory standards and processes which might be necessary.

We are willing to do these things, and those efforts are already under way along several paths.

Acid rain research has been under way for several decades among federal and state agencies, colleges and universities and in the utility industry.

Within the Department of Agriculture alone, researchers now are exploring several of the effects of acid rain. For example:

--At Delaware, Ohio, Forest Service researchers are evaluating the effects of acid precipitation on forest vegetation, particularly upon flowering, pollination, seed germination and seedling growth.

--At Durham, New Hampshire and Parsons, West Virginia, researchers are studying acid rain's effects upon forest ecosystems.

--At Grand Rapids, Minnesota, we are studying how precipitation is modified as it passes through the forest canopy, and its subsequent biological effects on nutrient cycling.

--The Soil Conservation Service has been collecting snow samples from several locations to determine the acidity of the accumulated snowpack.

--Through nine state agricultural experiment stations, the Science and Education Administration is examining the mechanisms of plant resistance and susceptibility to acid rain and developing acid rain-resistant plants.

--And at St. Paul, Minnesota, we are engaged in a cooperative study to determine the correlation between acid precipitation and the occurrence of plant diseases. Acid rain could make vegetation more susceptible to disease, insects and drought.

Elsewhere in the federal government, acid rain research is being funded and administered by the Departments of Energy, Commerce, and the Interior, the National Science Foundation and Environmental Protection Agency (EPA).

Non-federal research is under way, too; carried out by the Electric Power Research Institute, by many colleges and universities, by State Agricultural Experiment Stations and by other institutions.

Strong interest in acid rain by the State Agricultural Experiment Stations and the Forest Service prompted us to establish the National Atmospheric Deposition Program (NADP) in 1977. This is a network of more than fifty sampling sites throughout the United States. Acid rain is monitored at each of these sites to provide the data needed to evaluate its biological effects.

Research since the mid-1950s has built the foundation for our present understanding of the causes of acid deposition and its impact on the environment...an understanding sufficient to prompt serious concern among scientists and policymakers about the total dimension of acid rain effects.

But there is still much that we don't know about acid rain.

We must learn more about what it is and how it is formed.

al ecosystems.

te its effects and the costs

how much.

nal research to give us that

gress, President Carter

lobal environment. In his

federal agencies with acid

efforts to describe the

understanding of its causes

acts."

ve acid rain research program

d manage it. I co-chair that

on Agency.

awn from the Departments of

rior, the National Science

EPA and the Tennessee Valley

program the President

raft "Federal Acid Rain

and effects of deposition, and

nd monitoring.

review and comment. When it

We want your advice.

The Acid Rain Coordinating Committee is establishing links with and the costs state and private organizations, particularly with industry, to promote cooperative research whenever appropriate. And we will play a role in continuing research cooperation with Canada, Mexico and other nations and international organizations.

While we recognize that any regulatory action might add to the energy costs borne by the American people, our concern about the environmental costs of acid rain prompts us to examine what can be done to arrest the problem.

It is simplistic to reduce the choices between energy and environmental costs to a hard tradeoff between either a quality environment or adequate energy, as if the American people could have either alternative, but not both.

Through our research efforts, we hope to provide the public with a much more useful array of alternatives, embodying different levels of energy production and environmental impacts which could then be assessed and evaluated in the policy arena.

I believe that the American people want to know what their choices are. And given legitimate choices, I believe they will choose to pay more for energy to ensure that their lakes can support fish life, that their soils can support agriculture and that the diversity and productivity of their lands can be protected.

Through research, we can give them alternatives, and the information they need to choose wisely.

For that reason, we are pushing ahead vigorously to determine the full extent of the acid rain problem, and to explore the measures needed to alleviate it.

Aside from the research and development program which is under way in the Department of Agriculture and other organizations, the Environmental Protection Agency is carrying out several acid rain initiatives which are appropriate to its air pollution control function.

First, EPA is reviewing the Clean Air Act, to determine if additional regulatory authority is needed from Congress to deal with the acid rain problem.

Second, EPA is reviewing its current authority to minimize emissions from power plants built since the Clean Air Act was passed in 1970. New emission standards for these power plants will require scrubbers to remove up to 90 percent of sulfur emissions.

Third, EPA is examining the economic implications of possible new control measures to provide a basis for any new domestic and international policy decisions which may be needed.

There are many technological and regulatory options which are available or which can be developed to cope with acid rain. The speakers who follow will describe them.

But before I close, I want to re-emphasize that acid rain is a problem without national boundaries; that international cooperation must be an important part of any solution.

The exchange of air pollution between the United States and Canada and among European nations has become a matter of active international concern and attention.

Perhaps the most influential statement on this is the 1972 Declaration of the United Nations Conference on the Human Environment in Stockholm. It states, in Principle 21, that nations have "the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction."

While acid rain is the primary focus of current attention, the United States always has maintained an active interest in all forms of atmospheric pollution. Those international activities occur on several fronts:

- through our participation in "Earthwatch," the environmental data review, research and evaluation component of the United Nations Environment Program (UNEP);

- through the Man and the Biosphere (MAB) program of UNESCO, which is developing a research basis for rational conservation and use of the biosphere; and most importantly,

--through an explicit connection between our domestic and international air pollution control efforts, the Transboundary Air Pollution Convention, which the United States signed last November under the auspices of the United Nations Economic Commission for Europe (UNEC).

This convention establishes areas for international cooperation in air pollution monitoring and research, as well as joint development of air pollution control strategies. Our domestic acid rain initiatives will carry with them a very firm commitment to the principles of international cooperation which this convention spells out.

We are also working closely with Canada to address our mutual problems with acid. Representatives of our two nations have met on several occasions to discuss our concerns with this problem.

While we do get some acid rain from Canada, the Canadians receive 3 to 4 times as much sulfur as we do. That understandably has become a concern to our northern neighbor.

Canada's new Environment Minister, John Roberts, said recently that "in Canada, we are determined to reduce our emissions drastically and work to this end is well under way. All, however, will be in vain if the United States does not move to cut its much larger emissions--and soon."

When we signed the Transboundary Air Pollution Convention, we anticipated developing a similar compact with Canada. With this in mind, the Environmental Protection Agency and State Department have held informal discussions with the Canadian government for the past 18 months, and are now forming joint technical groups with the Canadians to produce a unified technical analysis upon which negotiations can be based.

Those informal discussions will lead soon to full negotiations over a possible international agreement that will address our transboundary air pollution problems, including acid rain.

The Canadians already have taken steps to act on this problem by cutting the size of the proposed Atikokan power plant in half, and by delaying its scheduled completion until 1988. This will significantly reduce the problem for northern Minnesota and Wisconsin.

Let me close, now, by briefly summarizing the scope of federal acid rain initiatives:

1. Several decades of research have produced much information on acid rain, enough to cause us deep concern about the ultimate scope of the problem and its implications for our nation and our neighbors.
2. That concern is prompting us to expand and coordinate federal acid rain research programs to further determine the extent of the acid rain problem and the means to alleviate it.
3. At the same time, we are assessing technological and regulatory options for controlling the sulfur and nitrogen oxide emissions which cause the problem.
4. We are doing this in cooperation with other nations and international organizations, recognizing the global nature of the problem.
5. As we learn more about acid rain and its effects, we then may determine the best means to alleviate the problem. The accumulation of scientific evidence of the environmental and human health costs of acid rain may well prompt the American people to call for appropriate remedial measures and to bear the necessary cost.

U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C. 20250

OFFICIAL BUSINESS
Penalty for Private Use, \$300



POSTAGE & FEES PAID
United States Department of Agriculture
AGR 101

NO.	NAMES	3
		0

U.S.D.A.
NAT'L AGRIC LIBRARY
RECEIVED

MAY 23 '80

PROCUREMENT SECTION
CURRENT SERIAL RECORDS